B.TECH. IN ELECTRONICS AND COMMUNICATION ENGINEERING (BTECVI)

Term-End Examination

December, 2012

BIEL-021 : COMPUTER COMMUNICATION NETWORKS

Time : 3 hours　　　　　　　　　　*Maximum Marks : 70*

Note :　*(i)　Attempt any **seven** questions.*

　　　　*(ii)　All questions are **equal** marks.*

1. (a) State the applications of TCP/IP.　　**2x5=10**
   (b) Discuss briefly the seven layers of OSI model.

2. (a) Explain the need of data link control.　**2x5=10**
   (b) A bit sequence containing an HDLC frame is given below. Identify various fields of the frame.
      01111110　01111110　10100011
      01100010　01110000　11000011
      01010101　10101011　01111110
      01111110

3. (a) Discuss the importance and need of Local　**6** Area Network.
   (b) Mention the types of Frame formats of　**4** Ethernet.

4. (a) Why the Ethernet MAC frame has length   4
       field ?

   (b) Explain briefly the physical layer of fast 6
       Ethernets.

5. (a) What are the transmission technologies used 5
       in IEEE 802.11 ? Explain them briefly.

   (b) What are the differences among backened   5
       LANS, SANS, and backbone LANS ?

6. Discuss the addressing schemes of IPV4 and IPV6.   10

7. Briefly explain the working of the following   10
   multicast protocols :

   (a) Flood and Prune

   (b) PIM - SM (Protocol - Independent Multicast)
       Protocol.

8. (a) Explain the use of multiplexing in the   5
       context of a Transport layer Protocol.

   (b) What does UDP provide that is not provided   2
       by IP ?

   (c) How can TCP be used to deal with network   3
       or internet congestion ?

9. (a) Define controlled access and list three 5
protocols in this category.

   (b) What can the station do if there is an access 5
conflict ? How can the station determine the
success or failure of the transmission.

10. Write short notes on *any two* of the following : 10

   (a) Unicast Routing Protocols.

   (b) Domain name system.

   (c) Digital Subscriber Line (DSL).